

REMARKS

By the foregoing it is proposed to amend claim 1. Thus, with entry of the amendment claims 1-16 would remain in the application.

Claims 1-16 were rejected in the outstanding Office Action under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement in that claim 1 recites “the laminated article includes a layer composition selected from the group consisting of...”. It was stated in the rejection that the specification does not appear to support the limitation that the article “includes” these compositions, which includes not only those specifically recited compositions, but opens the claim to any other layer composition. This rejection is hereby traversed and reconsideration thereof is respectfully requested in view of the application specification considered as a whole and the remarks below.

There is written description of the specifically referenced layer composition in the specification on page 17, lines 4-6. However, as stated on page 17 above lines 4-6, “arbitrary combinations [of layers 1, b and c]...are possible”. Thus, the specific layer compositions are merely preferable and necessarily permit the presence of another layer or layers in the laminated article. For example, the specification states in lines 11-13 on page 17 that “Further, an adhesive resin layer can be provided between respective layers if necessary in a lamination composition as described above” (underlining added). This and other additional disclosure in the specification support the present claim language. See also page 15, lines 20-23 of the Substitute Specification. Further, as indicated in dependent claims 6, 10, 13, 15 and 16, the layer composition selected from the group recited in claim 1 can additionally, “further comprising”, have as an innermost layer of the laminated

article a layer of a polyolefin resin. Further, as stated in claims 5, 9, 12 and 14, the laminated article with a layer composition selected from the group recited in claim 1 can have as an outermost layer the layer b of a polyamide resin (C). Thus, the specification clearly supports the specific recited layer compositions of the Markush group of claim 1 without requiring the exclusion of other layers in the laminated article, which is consistent with the use of the expression "comprising" in line 1 of claim 1. Accordingly, it is respectfully submitted that the claims are proper under 35 U.S.C. § 112, first paragraph.

Claims 1-16 were rejected in the Office Action under 35 U.S.C. § 112, second paragraph, as being indefinite because the inclusive "includes" limitation appears to conflict with the exclusive "consisting of" language. Responsive to this it is noted that the language of the Markush expression is proper and the use of the word "includes" is consistent with the fact that additional, unnamed layers may be included in the laminated article as discussed above. In view of the aforementioned comments as well as the disclosure in the application specification, it is respectfully submitted that the language in the claim is proper under 35 U.S.C. § 112, second paragraph.

Claims 1, 2, 4-6 and 11-16 were rejected in the Office Action under 35 U.S.C. § 103(b) as being unpatentable over Miharū, et al. (WO 96/18681) in view of Ninomiya, et al. (U.S. 6,184,288) and Saxton (U.S. 5,032,632). The references were cited for the reasons and in the manner set forth on pages 2-4 of the Office Action.

Claims 3 and 7-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Miharū in view of Ninomiya, et al. and Saxton as applied to claims 1, 2, 4-6 and 11-16, and further in view of Tachibana (U.S. 6,169,161).

The references were combined in this rejection as stated on page 4 of the Office Action.

These rejections are hereby traversed and reconsideration thereof is respectfully requested in view of the above amendments to claim 1 and the remarks set forth herein.

Concerning the amendments to claim 1, it is noted that the claim has been amended to recite that the saponified product of an ethylene-vinyl acetate copolymer (A) contains a sodium salt (M1) and a bivalent metal salt (M2) in advance. This amendment is supported by examples in the specification. In Example 1, EVOH (A) is used to which is precedently added a sodium acetate (M1) and a magnesium acetate (M2). In Example 2, EVOH (A) has precedently added thereto sodium acetate (M1) and zinc stearate (M2).

Responsive to the aforementioned rejections, it is noted that in the present invention the blend of polyamide resin (B) and EVOH (A) is melt-kneaded and both resins are reacted moderately. As a result, the polyamide resin (B) keeps the crystalline construction of EVOH (A) and specific effects of the present invention (such as excellent in appearance, delamination resistance, gas barrier property, excellent in long-run processability, performance of preventing odor and coloring and the like) are obtained. In order to react both the polyamide resin (B) and EVOH (A) moderately, it is necessary to decomposes EVOH (A) to easily react with the polyamide resin (B). However, when the said decomposition is carried too much, the above reaction tends to be carried too much and the said excellent effects are not obtained. Therefore, it is important to adjust the reaction by adding the combination of compounding ingredients sodium salt (M1), bivalent metal salt

(M2), phosphorous compound and hindered phenol antioxidant in the disclosed and claimed blending ratio and quantities in accordance with the invention in order to decomposes EVOH moderately. In this regard, by the above amendments claim 1 has been amended by reciting that the compounding ingredients of sodium salt (M1) and bivalent metal salt (M2) are present in the EVOH in their adequate amount in advance. As a result, the reaction can be carried out moderately and the aforementioned specific effects can be obtained.

The cited references relied upon in the rejections of the claims do not render the application claims obvious, 35 U.S.C. § 103. The primary reference to Miharu, et al. discloses a thermoplastic resin composition wherein it is necessary to add 10-40% by weight of ionomer. Ionomer is a hydrophilic resin. When such a large amount of ionomer is added as a compounding ingredient, the affinity of the resin compound and water becomes increased and it become inadequate for using laminate film for retort treatment. As evidence of this fact, there is no disclosure of using laminate film for retort treatment in Miharu, et al. Also, as acknowledged in paragraph number 5 on page 2 of the Office Action, Miharu, et al. is silent with regard to a ratio of alkaline metal salt to alkaline earth metal salt, and a phosphorous compound.

The deficiencies of Miharu, et al. are not remedied by the secondary references to Ninomiya, et al. Saxton and Tachibana, et al. Ninomiya, et al. only discloses a copolymer of EVOH and an amide-containing monomer and is silent to a blend of copolymer and polyamide resin. As referred to above,

the effects of the present invention are obtained by using a blend of EVOH (A) and polyamide resin, and the EVOH (A) has precedently added thereto sodium salt (M1), and a bivalent metal salt (M2). Ninomiya, et al. is silent about using a blend of EVOH copolymer and also silent about EVOH (A) to which has been added a sodium salt (M1), a bivalent metal salt (M2) precedently. The technical feature of the present invention is using the combination of each of a sodium salt (M1), a bivalent metal salt (M2), a phosphorous compound and a hindered phenol antioxidant according to the described blending ratio and quantities as recited in the claims and the application specification.

The Table presented in the remarks in the Amendment filed July 15, 2009, which is incorporated herein by reference, describes the specific advantageous effects, performance of preventing odor and coloring, which are obtained by blending EVOH, to which is precedently added the named ingredients in adequate ratio and amounts, and polyamide resin. As noted above, the field of the present invention concerns the blended resin compound of EVOH and polyamide resin which tends to remain a crystalline of polyamide resin. In this point of view, there is no disclosure in any of the cited references about the problem of preventing odor and coloring after retort treatment, which problem has been considered and solved with the present invention after repeating intensive studies as noted on page 2, line 25 of the Substitute Specification. Further, there is no disclosure or teaching in any of the cited references that specific advantageous effects of preventing odor and coloring after retort treatment are obtained by blending the claimed specific

compounding ingredients in the necessary ratio and amount as recited in the claims.

The wide ranges of possible inclusion for a sodium salt and a bivalent metal salt in Ninomiya, et al., see the permissible ranges of these materials set forth in column 5 of the patent, does not render it obvious that the amount ratio of M1/M2 of these materials is necessarily 0.01 to 15 calculated in terms of metal weight as required in the present invention, see page 6, lines 21-27 of the Substitute Specification. The importance of this ratio to the present invention is demonstrated by the evidence in Table 1 on page 32 of the Substitute Specification. See the reported results of Comparative Examples 1 and 2 wherein the ratio was $M1/M2 = 30$ for which the long-run processability and resistance to coloring were substantially inferior to that achieved with Examples 1-6 of the present invention.

Further, Ninomiya, et al. permit a wide range of phosphoric acid compound (c5) as stated in column 5, lines 46 to 53. Ninomiya, et al. do not teach maintaining the ratio M1/M2 to within the range 0.01 to 15 and at the same time maintaining a phosphorous compound calculated in terms of phosphorous to within 3 to 50 ppm. The evidence in Table 1 in the Substitute Specification illustrates the necessity of the claimed range of phosphorous. See for example the results of Comparative Example 4 which employed 80 ppm phosphorous, outside the Applicant's claimed range, for which inferior long run processability and resistance to odor and coloring were observed as compared with the results of Examples 1-6 of the present invention.

In addition, Ninomiya, et al. does not suggest the use of a hindered phenol antioxidant in the amount of 10-1,000 ppm as an additional compounding ingredient with the sodium salt (M1) and bivalent metal salt (M2), and phosphorous compound as recited in claim 1, as amended. Again, this amount of hindered phenol antioxidant is important for achieving the significant advantages of the present invention. In evidence, see Comparative Example 6 in Table 1 wherein 1200 ppm hindered phenol antioxidant was employed, outside of Applicant's claimed range of 10-1000 ppm. From the test results, the long-run processability as well as the resistance to both odor and coloring were inferior as compared with the laminated articles of Examples 1-6 of the present invention.

The previous comments distinguishing the present invention from the secondary references to Saxton and Tachibana, et al. set forth in the Amendment filed July 15, 2009 are incorporated herein by reference.

In summary, it is respectfully submitted that the specific, improved laminated article of the present invention would not have been rendered obvious, 35 U.S.C. § 103, at the time of the invention by any of the cited references, alone or in combination. Accordingly, reconsideration and allowance of the claims is requested.

A Request for Continued Examination is filed herewith to require consideration of this Amendment and the Information Disclosure Statement filed December 16, 2009.

Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-

2135 (Case No. 512.46311X00) and please credit any excess fees to such deposit account.

Respectfully submitted,

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